



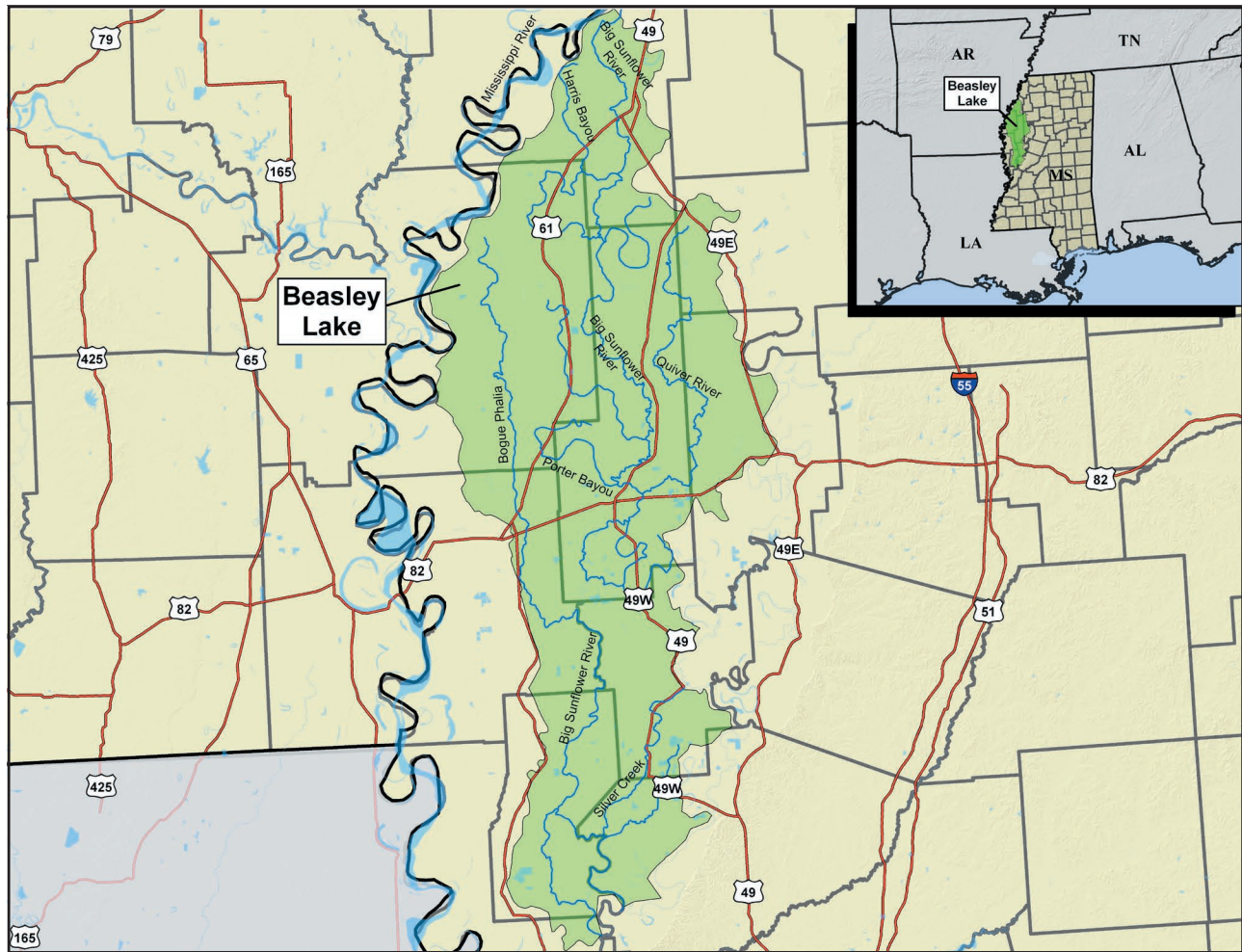
United States Department of Agriculture

## Conservation Effects Assessment Project (CEAP)

### Watershed Fact Sheet

## Beasley Lake Watershed, Mississippi: 2004-2006

An ARS\* Benchmark Research Watershed, one of 24 CEAP watershed projects.



## CEAP Assessment

Monitor lake water quality to assess the effectiveness of best management practices that reduce contaminants and improve lake ecology and productivity.

### Watershed Description

- Part of the Big Sunflower River watershed within the Yazoo River Basin.
- 2,100 acres
- Surface area of the receiving oxbow lake is approximately 62 acres.
- 77% cropland

- A Total Maximum Daily Load (TMDL) has been established for pathogens, low dissolved oxygen, pesticides, sediment, and nutrients.

**Issues:** Runoff is contaminated with sediments, nutrients (phosphorus, nitrate, ammonium), and pesticides. The receiving oxbow lake is impacted by suspended sediments that suppress the aquatic food chain.

*\*Agricultural Research Service*



Water Quality Sampling on Beasley Lake



Beasley Lake structural erosion control practices. Slotted Pipe reduces sediment load by preventing down cutting of ditches and slotted board riser reduce sediments through deposition of ponded water.



Vegetated ditches in Beasley Lake Watershed are used for trapping sediments and processing agrichemicals.

## Approach

**Water Sampling:** Water sampled from oxbow lake and wetlands

**Watershed Models:** AnnAGNPS (Annualized Agricultural NonPoint Source)

**Water Quality Monitoring:** Runoff, sediments, total organic carbon, nutrients, and pesticides

**Assess Practices:** Vegetative buffers, conservation tillage, constructed wetlands, grade control pipes, and conversion of row cropland to Conservation Reserve Program (CRP).

## Communicating Results

Reports and papers on individual research projects within the watershed and complementary studies in nearby areas. Examples include: Delta oxbow limnology, effects of CRP on runoff and soil characteristics; lake sediment toxicity in various lakes, including Beasley Lake; assessment of wetlands in mitigating pesticide effects; and edge-of-field effects on pesticide in runoff.

## Collaborators

- Mississippi Department of Wildlife, Fisheries, and Parks
- Mississippi State University
- Arkansas State University

## Contacts

Martin Locke, Watershed Leader and ARS contact  
(mlocke@ars.usda.gov)

Al Garner, NRCS contact  
(al.garner@ms.usda.gov)

James Johnson, NRCS contact  
(james.johnson@ms.usda.gov)

Paul Rodrigue, NRCS contact  
(Paul.Rodrigue@ms.usda.gov)

## NRCS State Conservationist

Homer L. Wilkes

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